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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,672	12/31/2003	Markku Juntti	60091.00275	2772

32294 7590 04/27/2007

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EXAMINER	
PEREZ, ANGELICA	
ART UNIT	**PAPER NUMBER**
2618	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/748,672	JUNTTI ET AL.	
	Examiner	Art Unit	
	Perez M. Angelica	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-31* is/are rejected.

7)☒ Claim(s) *14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *02/05/04; 05/10/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 14 is objected to because of the following informalities: it depends on claim 15, which the examiner believes is a typographical error. It should depend on claim 13. Appropriate correction is required. For purposes of examination, it will be provisionally considered.

2. Claims 27 and 30 are objected because "computer program for executing a computer process" should read along the lines of "computer readable medium encoded with a computer program"; "a computer readable medium (storing a, embodied with a, encoded with a, having a stored, having an encoded) computer program", or the like. To avoid 112 rejection issues corrections are required. For purposes of examination, the claims will be provisionally considered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Salinger, Sheldon Norman (Salinger, WO 00/07302).

Regarding claims 1, 9, 13, 20, 25, 27 and 30, Salinger teaches of a method, a transceiver (figure 2, e.g., "transmitter" and "receiver"), a system (figure 2), a computer program for executing a computing process (pages 4 and 32, lines 27 and 7-13,

respectively; where the processor requires a program in order to execute the instructions), of allocating resources in a telecommunications system (page 6, lines 4-7), where signals are transmitted over a signal space (pages 7 and 8, lines 27-34 and 1-11, 27-32, respectively), the method including: generating a sampled receive signal from a receive signal (page 7, lines 27-30); deriving an interference level threshold on the basis of an iterative statistical analysis of the sampled receive signal (pages 6, 7 and 8, lines 12-17, 33-34 and 1-11 respectively, where a set of samples can be sampled iteratively and also where the threshold comparison is done iteratively, too); identifying an interfered portion of the signal space on the basis of a comparison of the sampled receive signal and the interference level threshold (pages 7 and 8, lines 33-34 and 1-11, respectively); and reducing transmit resources from the interfered portion of the signal space (column 8, lines 27-32).

Regarding claims 2, 10, 14, 26 and 28, Salinger teaches all the limitations of claims 1, 9, 13, 25 and 27, respectively. The method of claim 1, where the step of deriving the interference level threshold includes at least one iteration step comprising: calculating the mean of the sampled receive signal (column 6, lines 18-20, 29-33, where it can be shown that the mean of the sampled received signal was calculated); generating the interference level threshold by using the mean (page 6, lines 29-33, where the threshold is generated when the average of the skew ness is below a threshold), and a predefined reliability factor characterizing statistics of a non-interfered portion in the sampled receive signal (column 6, lines 12-17, where when the distribution is not sufficiently shifted, then, there is no interference); and neglecting a

portion of the sampled receive signal, the portion lying above the interference level threshold (column 26-32, where the interfering portion will be "neglected"/not considered for transmission).

Regarding claims 3, 11, 15, 21, and 29, Salinger teaches all the limitations of claims 1, 9, 13, 20 and 27, respectively. Salinger further teaches of reducing receive resources from the interfered portion of the signal space (page 8, lines 28-32, where the bandwidth is reduced).

Regarding claims 4, 16 and 22, Salinger teaches all the limitations of claims 1, 13 and 20, respectively. Salinger further teaches where the step of reducing the transmit resources includes at least one element from the group comprising: attenuating a portion of transmit signal, the portion being located in the interfered portion of the signal space; excising a portion of the transmit signal, the portion being located in the interfered portion of the signal space (page 8, lines 28-32, where by allocating a bandwidth that includes only the desired signal and cutting/leaving outside the interferer it is excising a portion of the transmit signal) .

Regarding claims 5, Salinger teaches all the limitations of claim 1. Salinger further teaches of transmitting information on the interfered portion of the signal space; and receiving the information; and reducing the transmit resources from the interfered portion of the signal space on the basis of the information (page 8, lines 28-32, where the bandwidth is reduced when it is known that interference exists).

Regarding claims 6, Salinger teaches all the limitations of claim 1. Salinger further teaches of transmitting information on the interfered portion of the signal space;

and receiving the information; and reducing the receive resources from the interfered portion of the signal space on the basis of the information (page 12, lines 19-24, where adjustments are made accord9ng to the signal to be received).

Regarding claims 7, 18, 23 and 31, Salinger teaches all the limitations of claims 1, 13, 20 and 30, respectively. Salinger further teaches of allocating transmit resources to a non-interfered portion of the signal space (page 8, lines 28-32, where bandwidth is allocated to the non-interfered part of the signal).

Regarding claims 8, 12 and 19, Salinger teaches all the limitations of claims 1, 9 and 13, respectively. Salinger further teaches where the signal space includes at least one dimension selected from the group comprising: a spatial dimension, a temporal dimension, a frequency dimension, a fractional frequency dimension (page 8, lines 12-14, where the examiner selected a frequency dimension).

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angelica Perez whose telephone number is 571-272-7885. The examiner can normally be reached on 6:00 a.m. - 1:30 p.m., Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew D. Anderson can be reached on (571) 272-4177. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications and for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either the PAIR or Public PAIR. Status information for unpublished applications is available through the Private PAIR only. For more information about the pair system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). Information regarding Patent Application Information Retrieval (PAIR) system can be found at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600's customer service number is 703-306-0377.

Angelica Perez
Examiner

MATTHEW ANDERSON
SUPERVISORY PATENT EXAMINER

Art Unit 2618

April 20, 2007